

**TIMARU DISTRICT**  
**SIGNIFICANT NATURAL AREAS**  
**SURVEY**

**HOLMES PROPERTY**



**Report prepared for the Timaru District Council by Mike Harding  
September 2010**

# TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

## PROPERTY REPORT

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### **PROPERTY DETAILS:**

**Owner:** ..... Holmes  
**Valuation Reference:** ..... 24660/017.00  
**Address:** ..... Yates Road, RD 21, Geraldine.  
**Location:** ..... Between Yates Road and Station Stream, adjacent to Orari Gorge Scenic Reserve, near Tripp Settlement.  
**Ecological Districts:** ..... Orari Ecological District.  
**TDC Land Types:** ..... Hard Rock Hills and Downs.  
**Land Environments:** ..... Q2 (south-eastern hill country) and E3 (rolling foothills).

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### **ECOLOGICAL CONTEXT:**

The northern part of this property lies at the base of the foothills within Orari Ecological District, at the boundary of Geraldine Ecological District. The main landforms on this part of the property (where the SNAs are located) are moderately-steep hill slopes, terraces and small gullies.

The original vegetation of this area would have been predominantly podocarp-hardwood forest, similar to what remains there today. Denser podocarp-hardwood (matai-totara-kahikatea-lowland ribbonwood) forest would have occupied older terraces and flats, and tall kanuka-kowhai forest would have been present on recently disturbed surfaces, including riverbanks. Wetlands were likely to have been present on valley-floors, probably with associated areas of shrubland. The indigenous fauna would have been significantly more numerous and diverse, with a greater range of birds, lizards and invertebrates than is presently found in the area.

Indigenous vegetation on the property comprises relatively intact remnants of podocarp-hardwood forest near Station Stream and smaller areas of younger indigenous forest closer to Yates Road. The property adjoins some of the most extensive and least disturbed indigenous forest in Timaru District, including that protected within Orari Gorge Scenic Reserve. Notable are remnant stands of tall podocarp-hardwood forest on gentler slopes and terraces. These appear unlogged except for the apparent removal many years ago of single large (totara?) trees.

Rifleman, an at-risk (declining) species, was observed in most areas of forest on the property. The mature trees and relatively large patches of forest provide good habitat for this species and other forest birds. The property lies close to the existing range of the South Canterbury population of long-tailed bat. This species is regarded as nationally-endangered. Populations of eight locally-uncommon plant species are present on the property.

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**SIGNIFICANT NATURAL AREAS ON THE PROPERTY:**

The property was surveyed as part of the District-wide survey of Significant Natural Areas during May 2010. Most northern parts of the property were visited and assessed. Four areas, totalling approximately 12 hectares, are regarded as significant when assessed against the District Plan criteria.

Area No.	Area Name	Central grid reference	Aprox. size(ha)	Vegetation/habitat type
625c	Holmes Forest	J37: 646-904	4.08	Podocarp-hardwood forest; kanuka forest
625d	Holmes Forest	J37: 645-905	2.32	Podocarp-hardwood forest; sedgeland
625e	Holmes Forest	J37: 643-903	5.02	Podocarp-hardwood forest
625f	Yates Road Forest	J37: 645-896	0.70	Hardwood forest

Areas of indigenous vegetation and/or habitat on the property that are identified as Significant Natural Areas (SNAs) are illustrated on the attached aerial photograph and described in greater detail in this report. Note that the boundaries of the SNAs are indicative, rather than precise. These areas meet the ecological criteria in the Timaru District Plan (criteria i-vi, pages B18-B19) and are considered to be sustainable in the long term (criterion vii, page B19). SNAs are subject to confirmation by Council after regarding the matters listed under Final Considerations (pages B19-B20). It is expected that SNAs will eventually be listed in the District Plan by way of a notified plan change.

At present, consent is required from Council for clearance of areas of indigenous vegetation or habitat which meet the Interim Definitions in the District Plan. Clearance includes burning, spraying with herbicides and over-planting. SNAs encompass most, but not necessarily all, areas of vegetation and habitat which meet the Interim Definitions.

Three of these four SNAs have now been protected by a QEII Open Space Covenant (Hughie Holmes, *pers.comm.*). The protection provided by a QEII covenant is likely to be greater than that provided through the District Plan.

To assist with the protection and management of any SNA, landowners can apply to Council for financial assistance. Any questions regarding the protection, management and use of SNAs or other areas of indigenous vegetation should be directed to the District Planner.

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**OTHER AREAS INSPECTED ON THE PROPERTY:**

Other areas on the property were inspected but are not significant when assessed against the District Plan criteria. One such area is the small patch of forest, dominated by kanuka, mahoe and pohuehue, beside Yates Road. This forest was depleted at the time of survey but has potential to recover. Another potentially significant area is the open terrace and adjacent slopes at the northern corner of the property, between the existing areas of forest (SNAs 625c, 625d and 625e). This area is an enclave within areas of indigenous forest and will, if left undisturbed, eventually regenerate to indigenous forest. It does not meet the District Plan definition of indigenous vegetation at present but, with continued regeneration of woody species, will soon be dominated by indigenous species and become significant in the future. This open area is included within the QEII Covenant.



Holmes Property  
24660/017.00

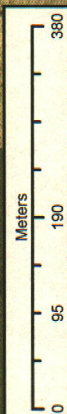
1:7,500

625d

625c

625b

625f





# TIMARU DISTRICT SNA SURVEY

SNA 625c

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<b>Area Name:</b> Holmes Forest	<b>Property:</b> Holmes
<b>Location (central map reference):</b> J37: 646-904	<b>Nearest Locality:</b> Tripp Settlement
<b>Ecological District:</b> Orari	<b>Area Size (ha):</b> 4.08 <b>Altitude (m):</b> 280-320
<b>Surveyors:</b> Mike Harding and Julie Brown	<b>Survey Time:</b> 1 hour <b>Survey Date:</b> 18-05-10

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## General Description:

This SNA lies on moderately-steep south-facing slopes at the northern corner of the property. It is contiguous with an area of forest (SNA 625b) on the adjoining property (Orari Gorge Station).

## Plant Communities:

Two main plant communities are present: podocarp-hardwood forest on the hill slope and kanuka forest at the toe of the slope. These plant communities are described below. Naturalized (exotic) species are indicated with an asterisk\*.

### Podocarp-hardwood forest:

The forest canopy is dominated by mahoe. Other canopy species are cabbage tree, kanuka, narrow-leaved lacebark, lancewood, lemonwood, fuchsia, wineberry, five-finger, bush lawyer, pohuehue and native convolvulus. One tall kahikatea tree (trunk diameter, 85cm) is present on the lower slopes and several younger kahikatea trees present in the subcanopy. One large totara tree is present near the property boundary.

The forest understorey is dominated by mahoe. Other understorey species are *Coprosma rotundifolia*, *Coprosma rhamnoides*, pate, five-finger, narrow-leaved lacebark, wineberry, mapou, horopito, marbleleaf, lemonwood, turepo, pokaka, wheki-ponga, supplejack, bush lawyer, native convolvulus, native jasmine, leather-leaf fern and saplings of kahikatea and totara.

Dominant ground-cover species are prickly shield fern, hen and chickens fern and crown fern. Other ground-cover species are bush lily, mountain kiokio, *Blechnum chambersii*, *Blechnum fluviatile*, *Leptopteris hymenophylloides*, *Hypolepis ambigua*, *Carex forsteri*, black nightshade\*, bittersweet\* and seedlings of native jasmine, broadleaf, mahoe, five-finger, wineberry, matipo and Darwin's barberry\*.

Additional species present on the forest margin are kanuka and narrow-leaved mahoe.

### Kanuka forest:

Scattered patches of kanuka forest are present at the lower boundary of the slope forest and along the stream. This younger forest is relatively uniform and interspersed by areas of pasture and, along the stream, areas of sedgeland. Other species present are cabbage tree, narrow-leaved mahoe, fuchsia, wineberry, *Coprosma tayloriae*, *Carex secta*, rushes (*Juncus* sp.), bracken, pohuehue, gorse\*, broom\* and cocksfoot\*.

## Birds/Fauna Observed:

Native birds observed during this brief survey were bellbird, fantail, kereru (NZ pigeon), grey warbler and rifleman.

## Notable Flora, Fauna and Habitats:

Important features of this area are the presence of old podocarp (kahikatea and totara) trees and saplings, the habitat the area provides for forest birds, including an at-risk (declining) bird species (rifleman), the presence of locally-uncommon plant species (wheki-ponga and supplejack) and the contribution the area makes to fauna habitat in the wider area.

## Notable Plant and Animal Pests:

Darwin's barberry was the only significant plant pest observed. The fruits of this shade-tolerant species are spread by birds. It is present and in places abundant on forest margins in this area. Gorse and broom are present at the lower forest margin but do not pose a threat to the forest. Animal pests were not surveyed.

**Boundaries (buffering, fencing, adjoining plant communities and habitats):**

This area adjoins other intact forest (SNA 625b) on the northeast (property) boundary and is linked to another area of podocarp-hardwood forest (SNA 625e) at its northern corner. It adjoins rank pasture and regenerating forest on its north and southwest boundaries. The lower boundary has been selected to include areas of scattered kanuka forest, rank pasture and sedgeland/rushland in the small valley at the base of the slope. The area effectively links SNAs 625b and 625e.

**Condition and Management Issues:**

The forest is in reasonably good condition. The absence of grazing and browsing pressure is indicated by the health of the forest understorey, including the presence of wheki-ponga and supplejack. The main management issues are plant and animal pest control, though control of Darwin's barberry is difficult.

**Property Owner Comment:**

This area has not been grazed for several years. It is now protected by a QEII Open Space Covenant.

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**ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

<b>Primary Criteria</b>	<b>Rank</b>	<b>Notes</b>
Representativeness	<b>M/H</b>	A good example of indigenous forest typical of the ecological district and containing canopy species representative of the forest originally present.
Rarity	<b>M</b>	Provides habitat for an at-risk bird species and supports populations of two locally-uncommon plant species.
Diversity and pattern	<b>M</b>	A relatively diverse range of plant species, though species diversity is probably reduced from that originally present.
Distinctiveness/special features	<b>M</b>	The presence of large kahikatea and totara trees is a special feature.
<b>Other Criteria</b>		
Size/shape	<b>M</b>	A relatively small area, though with a good shape and well buffered.
Connectivity	<b>M/H</b>	The area links two other areas of indigenous forest and is an important part of the network of fauna habitat in the area.
Long-term Sustainability	<b>M/H</b>	Ecological values are likely to persist with some conservation management (pest control).

**Final Consideration (of other matters: Section D, page B-19 of Timaru District Plan):**

This area has been protected by the landowner and is fenced from stock. The moderately-steep slopes have limited potential for farm development.

**Discussion:**

This area meets the District Plan criteria for a Significant Natural Area. Important features of the area are the presence of old podocarp (kahikatea and totara) trees and saplings, the habitat the area provides for forest birds, including an at-risk (declining) bird species (rifleman), the presence of locally-uncommon plant species (wheki-ponga and supplejack) and the contribution the area makes to fauna habitat in the wider area.



# TIMARU DISTRICT SNA SURVEY

SNA 625d

**Area Name:** Holmes Forest

**Location (central map reference):** J37: 645-905

**Ecological District:** Orari

**Surveyors:** Mike Harding and Julie Brown

**Property:** Holmes

**Nearest Locality:** Tripp Settlement

**Area Size (ha):** 2.32

**Altitude (m):** 290-330

**Survey Time:** 1½ hours

**Survey Date:** 18-05-10

## General Description:

This SNA lies on the terraces and banks of Station Stream at the northern boundary of the property. It adjoins an extensive area of indigenous forest across Station Stream on Orari Gorge Station. It also adjoins Orari Gorge Scenic Reserve at its western end and other areas of indigenous forest on the property (SNA 625e). A vehicle track bisects part of the area.

## Plant Communities:

Three main plant communities are present: podocarp-hardwood forest on the river terrace; sedgeland on a wet lower terrace; and, podocarp-hardwood-kanuka forest on the hill-slope. These plant communities are described separately below. Naturalized (exotic) species are indicated with an asterisk\*.

### Podocarp-hardwood terrace forest:

Forest canopy species are pokaka, broadleaf, lancewood, kahikatea, totara, matai, lemonwood, mahoe, five-finger and bush lawyer. Tall kanuka trees are present at the forest edge near the open terrace. Trunk diameters (cm at breast height) of the larger trees are: kahikatea 40 to 55; matai, 50 to 59; and kanuka, 35 to 40. One larger and very old kahikatea tree is present near the vehicle track.

The forest understorey is dominated by shrubby mahoe and, in places, Darwin's barberry\*. Other understorey species are *Coprosma propinqua*, *Coprosma crassifolia*, *Coprosma rotundifolia*, *Coprosma rhamnoides*, *Coprosma rigida*, *Coprosma linariifolia*, mahoe, narrow-leaved mahoe, wineberry, *Neomyrtus pedunculata*, mapou, five-finger, broadleaf, kowhai, poataniwha, pokaka, matipo, lemonwood, horopito, supplejack, leather-leaf fern, hanging spleenwort, white climbing rata, native jasmine, bush lawyer and saplings of matai and kahikatea.

Ground-cover species present are hound's tongue fern, hen and chickens fern, crown fern, bush lily, white climbing rata and seedlings of kahikatea, mapou, five-finger, kowhai, broadleaf, horopito, supplejack, native jasmine, Darwin's barberry\* and *Coprosma* species.

Species commonly present at the forest margin are Darwin's barberry\*, Himalayan honeysuckle\*, prickly shield fern, thousand-leaved fern, *Hypolepis ambigua*, Chilean flame creeper\* and gorse\*.

Additional canopy species on the steep bank adjacent to the river, or at the river side, are: lowland ribbonwood, narrow-leaved lacebark, kowhai, marbleleaf, fuchsia, matipo and grey willow\*.

### Sedgeland on lower terrace:

This low terrace is dominated by rank pasture (mostly cocksfoot\*) and *Carex coriacea*. Other species present are *Carex secta* and toetoe. The area was not surveyed thoroughly, though it clearly supports wetland vegetation and lies between areas of forest.

### Podocarp-hardwood-kanuka forest:

Forest canopy species in the main gully and on damper slopes are kahikatea, matai, narrow-leaved lacebark, kowhai, five-finger, broadleaf, lancewood, mapou, lemonwood, wineberry and marbleleaf. The forest canopy on the drier spur (adjacent to Orari Gorge Station) is dominated by kanuka and mapou.

Understorey species are *Coprosma rotundifolia*, *Coprosma crassifolia*, *Coprosma rhamnoides*, *Coprosma linariifolia*, poataniwha, shrubby mahoe, five-finger, pate, mahoe, pokaka, Darwin's barberry\*, native jasmine and saplings of matai, kahikatea, totara, narrow-leaved lacebark and kowhai.

Ground-cover species present are prickly shield fern, hen and chickens fern, hanging spleenwort, *Asplenium richardii*, necklace fern, *Blechnum fluviatile*, *Blechnum chambersii*, swamp kiokio, mountain kiokio, crown



fern, hound's tongue fern, bush lily, *Carex forsteri*, *Libertia ixioides*, hookgrass and seedlings of kahikatea, Darwin's barberry\* and rarely supplejack.

Species commonly present at the forest margin are fuchsia, Darwin's barberry\*, prickly shield fern, lawyer and Chilean flame creeper\*.

#### **Birds/Fauna Observed:**

Native birds observed during this brief survey were fantail, rifleman and bellbird.

#### **Notable Flora, Fauna and Habitats:**

Important features of this area are the presence and in places abundance of podocarp trees and regeneration (kahikatea, matai and totara), the habitat the area provides for forest birds and possibly long-tailed bat, the presence of an 'at-risk' (declining) bird species (rifleman), the presence of locally-uncommon plant species (supplejack, shrubby mahoe, *Neomyrtus pedunculata* and *Libertia ixioides*), the presence of wetland vegetation and the protection (buffering) that the forest provides to Station Stream and the adjacent forest.

#### **Notable Plant and Animal Pests:**

Grey willow and Darwin's barberry are the only significant plant pests present. Other naturalized species in the area (gorse, Himalayan honeysuckle and Chilean flame creeper) do not pose a significant threat to the forest communities. Animal pests were not surveyed, though pig-rooting was observed.



SNA 625d

#### **Boundaries (buffering, fencing, adjoining plant communities and habitats):**

This area adjoins extensive areas of indigenous forest in Station Stream (SNA 78) and in Orari Gorge Scenic Reserve. It links these areas with other areas of indigenous forest on the property (SNAs 625c and 625e). The area is fenced and is not grazed. Along its southeast boundary the area adjoins an enclave of rank pasture on the terrace and scrub with regenerating native species (five-finger, lemonwood, lancewood, narrow-leaved mahoe and matipo) on the adjacent slope.



**Condition and Management Issues:**

The area is mostly in very good condition. The main management issues are control of introduced species, though control of Darwin's barberry is difficult.

**Property Owner Comment:**

This area is now protected by a QEII covenant and is not grazed.

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**ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

<b>Primary Criteria</b>	<b>Rank</b>	<b>Notes</b>
Representativeness	<b>M/H</b>	A very good example of indigenous forest typical of the ecological district and supporting a good range of canopy species representative of the original vegetation.
Rarity	<b>M/H</b>	Provides good habitat for an 'at-risk' bird species (rifleman) and suitable habitat for a nationally-endangered species (long-tailed bat). Supports populations of several locally-uncommon plant species.
Diversity and pattern	<b>M/H</b>	A range of communities, species and habitats is present, including terrace forest, riparian forest, wetland and hill-slope forest.
Distinctiveness/special features	<b>M</b>	The large podocarps and the high river-scarp are interesting features.
<b>Other Criteria</b>		
Size/shape	<b>M</b>	A small to moderate-sized area that is well buffered.
Connectivity	<b>M/H</b>	Adjoins extensive areas of indigenous forest across Station Stream and helps link these areas with other forest on the property.
Long-term Sustainability	<b>M/H</b>	Ecological values are likely to persist with some management, notably continued animal pest control.

**Final Consideration (of other matters: Section D, page B-19 of Timaru District Plan):**

This area has been formally protected by the landowner.

**Discussion:**

This area meets the District Plan criteria for a Significant Natural Area. Important features of the area are the presence and in places abundance of podocarp trees and regeneration (kahikatea, matai and totara), the habitat the area provides for forest birds and possibly long-tailed bat, the presence of an 'at-risk' (declining) bird species (rifleman), the presence of four locally-uncommon plant species, the presence of wetland vegetation and the protection (buffering) that the forest provides to Station Stream and the adjacent forest.



margins but do not pose a threat to the forest. A single bush of Montpellier broom is present at the southeast corner of the area (possibly within the scenic reserve). Animal pests were not surveyed.

**Boundaries (buffering, fencing, adjoining plant communities and habitats):**

This area adjoins Orari Gorge Scenic Reserve (across the vehicle track) on the western (property) boundary, SNA 625d and the extensive Station Stream forests on its northern boundary, and adjoins SNA 625c at its eastern corner. It adjoins rank pasture and regenerating forest on its northeast and southeast boundaries. It is well buffered and effectively links SNAs 625c with the scenic reserve.

**Condition and Management Issues:**

The forest is in very good condition. The absence of grazing and browsing pressure is indicated by the health of the forest understorey, notably the presence of a large number of locally-uncommon understorey plant species. The presence of a few large stumps indicates early logging, though this appears to have been restricted to the removal of selected (totara?) trees. The main management issues are plant and animal pest control, though control of Darwin's barberry is difficult.

**Property Owner Comment:**

This area is now protected by a QEII Open Space Covenant. It is not grazed.

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**ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

Primary Criteria	Rank	Notes
Representativeness	H	A very good example of indigenous forest typical of the ecological district and highly representative of the original vegetation.
Rarity	M/H	Provides very good habitat for an at-risk bird species (rifleman) and provides suitable habitat for long-tailed bat (nationally endangered). Supports populations of a number of locally-uncommon plant species.
Diversity and pattern	M/H	A very diverse forest community.
Distinctiveness/special features	M/H	The abundance of large podocarp trees (especially kahikatea) and tree ferns (wheki-ponga) is a special feature.
<b>Other Criteria</b>		
Size/shape	M	A relatively small area though it has a good shape and is well buffered.
Connectivity	M/H	Adjoins Orari Gorge Scenic Reserve and provides a link to forest (SNA 625c) further east.
Long-term Sustainability	M/H	Resilient to plant pests. Animal pest control may be required to maintain its ecological values in the long term.

**Final Consideration (of other matters: Section D, page B-19 of Timaru District Plan):**

This area has been formally protected by the landowner. This forest has very high amenity and scenic value.

**Discussion:**

This area very easily meets the District Plan criteria for a Significant Natural Area. Important features of the area are the abundance of large old kahikatea trees and kahikatea seedlings, the presence of other podocarp (matai and totara) trees, the habitat the area provides for forest birds, including an at-risk (declining) bird species (rifleman), the presence of locally-uncommon plant species (wheki-ponga, soft tree fern, supplejack, *Coprosma rubra*, bush rice grass, shrubby mahoe and *Neomyrtus pedunculata*) and the contribution the area makes to fauna habitat in the wider area.



# TIMARU DISTRICT SNA SURVEY

SNA 625f

**Area Name:** Yates Road forest

**Location (central map reference):** J37: 645-896

**Ecological District:** Orari

**Surveyors:** Mike Harding and Julie Brown

**Property:** Holmes

**Nearest Locality:** Tripp Settlement

**Area Size (ha):** ?

**Altitude (m):** 270-300

**Survey Time:** ½ hour

**Survey Date:** 18-05-10

## General Description:

This SNA lies on a moderately-steep south-facing slope just north of Yates Road at the western boundary of the property. It adjoins Orari Gorge Scenic Reserve on its western boundary.

## Plant Communities:

The main plant community present is hardwood forest, described below. Naturalized (exotic) species are indicated with an asterisk\*.

The forest canopy is dominated by kanuka and mahoe. Other canopy species are lancewood, five-finger, pokaka, mapou, narrow-leaved lacebark, marbleleaf, lemonwood, bush lawyer, pohuehue and native jasmine.

The forest understorey is relatively open. Species present are horopito, bush lawyer and, on lower slopes, wheki-ponga, supplejack, pate, fuchsia, narrow-leaved lacebark and *Coprosma propinqua*.

The ground-cover in most parts of the forest is very open and bare. Species present are necklace fern, *Asplenium richardii*, hen and chickens fern, *Blechnum fluviatile*, foxglove\* and seedlings of mahoe, kanuka, pohuehue and *Coprosma rotundifolia*. Additional ground-cover species at the base of the slope are prickly shield fern, *Blechnum chambersii*, *Hypolepis ambigua*, *Blechnum penna-marina*, hairy pennywort and seedlings of kahikatea and five-finger.

Species present on the forest margin and in forest openings are *Coprosma rotundifolia*, *Coprosma propinqua*, *Coprosma rhamnoides*, fuchsia, thousand-leaved fern, hard fern, bidibid, gorse\*, foxglove\* and Darwin's barberry\*.

## Birds/Fauna Observed:

Native birds observed during this brief survey were bellbird and rifleman.

## Notable Flora, Fauna and Habitats:

Important features of this area are the presence of podocarp (kahikatea) seedlings, the habitat the area provides for an at-risk bird species (rifleman), populations of locally-uncommon plant species (supplejack and wheki-ponga) and its location adjacent to Orari Gorge Scenic Reserve.

## Notable Plant and Animal Pests:

Darwin's barberry is the most important plant pest present. The native climbing pohuehue (*Muehlenbeckia australis*) poses a threat at the forest margin. Animal pests were not surveyed.

## Boundaries (buffering, fencing, adjoining plant communities and habitats):

The area is not fenced and is affected by grazing animals. It is buffered to some extent by its location on a steep south-facing slope. It adjoins Orari Gorge Scenic Reserve on its western boundary.

## Condition and Management Issues:

The most important management issue is encouragement of understorey regeneration. Darwin's barberry is present, though does not pose a significant threat at present (control would be required if the area was fenced from grazing).



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**ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

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Primary Criteria	Rank	Notes
Representativeness	M	A good example of forest typical of grazed forest in the ecological district. The presence of podocarp (kahikatea) seedlings adds value.
Rarity	M	Provides some habitat for an at-risk bird species (rifleman) and supports populations of two locally-uncommon plant species.
Diversity and pattern	L/M	Species diversity is substantially reduced.
Distinctiveness/special features	L/M	
Other Criteria		
Size/shape	M	A small area, though buffered by its location on a south-facing slope.
Connectivity	M/H	Adjoins a protected area (Orari Gorge Scenic Reserve) along one boundary.
Long-term Sustainability	M	Protection from grazing and subsequent plant and animal pest control would be required to maintain the ecological values in the long term.

**Final Consideration (of other matters: Section D, page B-19 of Timaru District Plan):**

This area is grazed as part of a larger paddock. It has limited potential for farm development due to the steepness of the slopes. Its location adjacent to Orari Gorge Scenic Reserve is an important feature.

**Discussion:**

This area just meets the District Plan criteria for a Significant Natural Area. Important features of the area are the presence of podocarp (kahikatea) seedlings, the habitat the area provides for an at-risk bird species (rifleman), populations of two locally-uncommon plant species and its location adjacent to Orari Gorge Scenic Reserve

## Scientific names of species cited by common name in this report

(Note: this is not a complete species list; it is a list only of species cited by common name in this report)

Common Name ..... Scientific name

(\* = naturalised species)

bidibid.....	<i>Acaena</i> sp.
bittersweet*.....	<i>Solanum dulcamara</i>
black nightshade*.....	<i>Solanum nigrum</i>
bracken.....	<i>Pteridium esculentum</i>
broadleaf.....	<i>Griselinia littoralis</i>
broom*.....	<i>Cytisus scoparius</i>
bush lawyer.....	<i>Rubus cissoides</i>
bush lily.....	<i>Astelia fragrans</i>
bush rice grass.....	<i>Microlaena avenacea</i>
cabbage tree/ti rakau.....	<i>Cordyline australis</i>
Chilean flame creeper*.....	<i>Tropaeolum speciosum</i>
cocksfoot*.....	<i>Dactylis glomerata</i>
crown fern.....	<i>Blechnum discolor</i>
Darwin's barberry*.....	<i>Berberis darwinii</i>
five-finger.....	<i>Pseudopanax arboreus</i>
foxglove*.....	<i>Digitalis purpurea</i>
fuchsia.....	<i>Fuchsia excorticata</i>
gorse*.....	<i>Ulex europaeus</i>
grey willow*.....	<i>Salix cinerea</i>
hairy pennywort.....	<i>Hydrocotyle moschata</i>
hanging spleenwort.....	<i>Asplenium flaccidum</i>
hard fern.....	<i>Paesia scaberula</i>
hen and chickens fern.....	<i>Asplenium gracillimum</i>
Himalayan honeysuckle*.....	<i>Leycesteria formosa</i>
hookgrass.....	<i>Uncinia</i> sp.
horopito/pepperwood.....	<i>Pseudowintera colorata</i>
hound's tongue fern.....	<i>Microsorium pustulatum</i>
kahikatea/white pine.....	<i>Dacrycarpus dacrydioides</i>
kanuka.....	<i>Kunzea ericoides</i>
koromiko.....	<i>Hebe salicifolia</i>
kowhai.....	<i>Sophora microphylla</i>
lancewood.....	<i>Pseudopanax crassifolius</i>
lawyer.....	<i>Rubus schmidelioides</i>
leather-leaf fern.....	<i>Pyrrosia eleagnifolia</i>
lemonwood.....	<i>Pittosporum eugeniioides</i>
lowland ribbonwood.....	<i>Plagianthus regius</i>
mahoe/whiteywood.....	<i>Melicytus ramiflorus</i>
manuka.....	<i>Leptospermum scoparium</i>
mapou.....	<i>Myrsine australis</i>
marbleleaf/putaputaweta.....	<i>Carpodetus serratus</i>
matai/black pine.....	<i>Prumnopitys taxifolia</i>
matipo/kohuhu.....	<i>Pittosporum tenuifolium</i>
Montpellier broom*.....	<i>Teline monspessulana</i>
mountain kiokio.....	<i>Blechnum montanum</i>
narrow-leaved lacebark.....	<i>Hoheria angustifolia</i>
narrow-leaved mahoe.....	<i>Melicytus lanceolatus</i>
native convolvulus.....	<i>Calystegia tuguriorum</i>
native jasmine.....	<i>Parsonsia</i> sp.
necklace fern.....	<i>Asplenium flabellifolium</i>
pate.....	<i>Schefflera digitata</i>
poataniwha.....	<i>Melicope simplex</i>
pohuehue.....	<i>Muehlenbeckia australis</i>
pokaka.....	<i>Elaeocarpus hookerianus</i>



prickly shield fern .....	<i>Polystichum vestitum</i>
shrubby mahoe .....	<i>Melicytus micranthus</i>
soft tree fern .....	<i>Cyathea smithii</i>
supplejack .....	<i>Ripogonum scandens</i>
swamp kiokio .....	<i>Blechnum minus</i>
thousand-leaved fern .....	<i>Hypolepis millefolium</i>
toetoe .....	<i>Cortaderia richardii</i>
totara .....	<i>Podocarpus totara</i>
turepo .....	<i>Streblus heterophyllus</i>
water fern .....	<i>Histiopteris incisa</i>
weeping mapou .....	<i>Myrsine divaricata</i>
wheki-ponga .....	<i>Dicksonia fibrosa</i>
white climbing rata .....	<i>Metrosideros diffusa</i>
wineberry .....	<i>Aristotelia serrata</i>